



Built to deliver a better world

AECOM  
5438 Wade Park Boulevard, Suite 200  
Raleigh, NC 27607

919.461.1194 tel

***Sent via Email.***

November 19, 2021

Ms. Jennifer Knoepfle, Ph.D., P.G.  
Remedial Project Manager  
U.S. EPA Region 5 (SR-6J)  
Superfund Division  
77 West Jackson Blvd.  
Chicago, Illinois 60604

Mr. Brian Conrath  
National Priorities List Unit  
Federal Sites Remediation Section  
Division of Remediation Management  
Bureau of Land  
Illinois Environmental Protection Agency  
1021 N. Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

**Subject: Response to Comments on Uniform Federal Policy – Quality Assurance Plan (UFP-QAPP) Revision 0 (Rev 0)  
Hamilton Sundstrand Corporation (HSC) Plant 1/2 Facility  
Area 9/10 Remedial Action  
Southeast Rockford Groundwater Contamination Superfund Site, Rockford, Illinois (ILD981000417)**

Dear Ms. Knoepfle and Mr. Conrath:

On behalf of Hamilton Sundstrand Corporation (HSC), AECOM Technical Services Inc. (AECOM) has completed this response letter to the United States Environmental Protection Agency (USEPA) October 1, 2021 comment letter regarding the Uniform Federal Policy – Quality Assurance Plan (UFP-QAPP) dated August 27, 2021 for the HSC Plant 1/2 Facility in Rockford, Illinois (Site).

The revision of the UFP-QAPP (submitted concurrently with this letter), includes the responses noted below and per the direction of USEPA, the text modifications are in redline for ease of reviewer efficiency.

*Comment 1: UFP-QAPP Worksheet #3 & #5: Project Organization and QAPP Distribution*

- a. Update to the current EPA RPM and QA reviewer (also Sections 2-1, 2-7).*
  - Missing signature line for EPA QA reviewer*

**Response:** The USEPA reviewers and signature lines for the QAPP are provided on Worksheet #1 & 2.

- b. *Organization Chart – define what the solid line represents and what the broken line represents.*
  - *In this draft, the organization chart is missing.*

**Response:** Worksheets #3 and #5 replace the original organization chart.

*Comment 2: UFP-QAPP Worksheet #12: Measurement Performance Criteria Table*

- a. *Table 12-A*
  - *Please provide rationale for including VOCs that are not defined as COCs in the ROD (e.g. Toluene, 1,1-DCE).*

**Response:** 1,1-dichloroethene (1,1-DCE) is included in the Operable Unit #3 (OU3) Record of Decision (ROD) (see Table 5 in the OU3 ROD). 1,4-dioxane was added per the recent request of USEPA. Toluene and 1,1-dichloroethane have been removed.

- *Where is it demonstrated that the laboratory could achieve an LOQ of 0.4 ug/L for 1,4-Dioxane? This information was not found in the laboratory SOP.*

**Response:** A new subcontract laboratory has been added to the UFP-QAPP, Pace Analytical Services, LLC (Pace), located in Madison, WI. The laboratory's standard operating procedure (SOP) (included in Attachment C of the revised UFP-QAPP), specifies the reporting limit (or lower limit of quantitation [LLOQ]) of 0.2 microgram per liter (µg/l) and an method detection limit (MDL) of 0.057 µg/l. The laboratory will use Method 8260B-Single Ion Monitoring (SIM) with a solid phase microextraction (SPME). The laboratory will also report a "J" flag (estimated result) for this parameter that is detected and quantifiable between the MDL and LLOQ. See Table 12-A in the UFP-QAPP for the revised data quality levels for 1,4-dioxane.

- *"Sulfide" is described as a potential analyte. In Worksheet #23, "Sulfite" is described and the method for sulfite (NJ-EGN119-NO SO3) is included in the appendix. It doesn't look like an SGS NJ method for SMA4500 is included in the appendix. Clarify which analyte and which method is required for this project and standardize throughout document.*

**Response:** The contract laboratory SOP for "Sulfide" has been added to Attachment B to the UFP-QAPP. Sulfide is to be used as a monitored natural attenuation parameter.

- *Table 12-A is missing TOC analysis described in Worksheet #23. Is TOC a potential analyte for groundwater for this project?*

**Response:** Total organic carbon (TOC) is to be used as a monitored natural attenuation parameter. Table 12-A in the UFP-QAPP was updated to include the applicable laboratory criteria for TOC.

*Comment 3: UFP-QAPP Worksheet #15: Project Action Limits and Laboratory Specific Detection/Quantitation Limits (Appendix C)*

- a. *Table 15-A1 through Table 15-A3*
  - *The project specific reporting limit for 1,4-dioxane on page 9 is 0.4 ug/L. The laboratory SOP lists their reporting limit (RL) as 130 ug/L for water matrix samples. This needs to be reconciled. What are the project specific measurement objectives for this analyte and can this laboratory meet them? Screening/action levels must be documented for 1,4-dioxane. The former is normally 0.46 ug/L<sup>2</sup>.*

**Response:** A new laboratory, Pace was added to the UFP-QAPP and will perform the analysis for 1,4-dioxane. The laboratory provided its reporting limit (or LLOQ) and MDL for 1,4-dioxane in the laboratory SOP. Tables 12-A and 15-A1 of the QAPP were updated to reflect the new laboratory LLOQ and MDL, as well as QC criteria. The laboratory SOP is provided in Attachment C of the revised UFP-QAPP.

- *Is LOQ in Worksheet #15 the same as the LLOQ described in the laboratory SOP?*

**Response:** The “Limit of Quantitation (LOQ)” shown in Worksheet #15 is the same as the “Lower Limit of Quantitation (LLOQ)” shown in the laboratory SOP. For better clarity, the LOQ acronym in Worksheet #15, was revised to “LLOQ”.

- b. *Table 15-C: CAS number for Cresol missing.*

**Response:** The CAS number for Cresol has been added.

*Comment 4: UFP-QAPP Worksheet #21: Project Sampling SOP References Table*

- c. *F201 is missing from Appendix A; include in next draft.*

**Response:** SOP F201 has been added to Attachment A in the UFP-QAPP.

- d. *F504 March 2021 version included in Appendix A. Update Worksheet #21 to reflect.*

**Response:** Worksheet #21 was updated to list the March 2021 version of F504 in Attachment A in the UFP-QAPP.

Comment 5: *UFP-QAPP Worksheet #23: Analytical SOPs*

*Missing pH method description included in Worksheet #12 for leachate testing.*

**Response:** The pH method has been removed from Worksheet #12 (Table 12A) due to the parameter is not included in the leachate testing.

Comment 6: *UFP-QAPP Worksheet #29: Project Documents and Records Table*

- a. *Sample Collection and Field Records: Define whether there are all electronic records or whether any are physical records that are converted to electronic records.*

**Response:** Sample collection and field records will be recorded as a hard copy and converted into electronic forms, as appropriate.

- b. *Laboratory Data Deliverables: Level IV data deliverables are required for submission to EPA.*

**Response:** Acknowledged. The subcontract laboratories will provide the Level IV reports for all analytical testing except those for waste characterization. Respective Worksheets in the UFP-QAPP were updated to reflect the requirement for Level IV deliverables.

Comment 7: *UFP-QAPP Worksheet #31 Planned Project Assessments Table, Worksheet #32 Assessment Finding and Corrective Response Actions, Worksheet #33 Assurance Management Reports Table*

- a. *Need to include all 3 worksheets with tables containing the information elements described in the Optimized UFP-QAPP Worksheets guidance (March 2012)<sup>3</sup>. This guidance provides examples of assessments, not required assessments.*
- *Worksheet #31 describes assessments of project quality system/project quality objectives, Worksheet #32 describes how findings and corrective actions related to non-conformances identified in the assessments will be addressed, and Worksheet #33 describes QA reports generated during the project.*

**Response:** Worksheets #31, #32, and #33 are provided in the UFP-QAPP. Worksheet #31 describes assessments of project quality system/project quality objectives, Worksheet #32 describes how findings and corrective actions related to non-conformances identified in the assessments will be addressed, and Worksheet #33 describes quality assurance reports generated during the project.

- b. *Review of Geoprobe equipment and use for soils: This is not really an assessment, probably better suited to be included with calibration information in Worksheet #22.*

**Response:** Acknowledged. The Geoprobe information was removed from Worksheet #31.

- c. *Review Field Logbooks: describe the “information” produced from these reviews and where the reviews are documented. If applicable, provide checklists defining this review.*

**Response:** The assessment type “Review Field Logbooks” has been removed from Worksheet #31.

- d. *COC forms: describe the “information” produced from these reviews and where the reviews are document. If applicable, provide checklists defining this review.*

**Response:** The review of the chain-of-custody (COC) is completed by the Data Validator and Field Team Supervisor when the laboratory provides its “sample acknowledgement form” to the project team at the time of sample receipt. If errors on the COC are found, either the validator or supervisor correct the COC (date and sign) and resubmit to the laboratory. A checklist is not used for evaluation of the COC. Rather, the accuracy of the COC record is part of the training given to the validator when initially learning validation review protocols.

- e. *A field audit, if performed by EPA, would be conducted by EPA QA and/or the RPM; update the table to include this potential type of assessment.*

**Response:** Worksheet #31 was updated to include a potential field audit, if performed by EPA QA and/or the RPM.

- f. *Worksheet #31 is missing any assessments of QA system and conformance to UFP-QAPP by AECOM, including readiness reviews. Include descriptions of these assessments here.*

**Response:** Worksheet #31 was updated to include a technical system audit by the subcontractor laboratory. Conformance to the UFP-QAPP by AECOM will be completed during the data validation process.

*Comment 8: UFP-QAPP Worksheet #35 Data Verification Procedures*

- a. *Audit Reports, Corrective Action reports: audits and assessments are not typically included as a form of data verification. Elaborate on how they will be used for data verification or remove.*
  - *This information should be included in Worksheet #32.*

**Response:** Worksheet #35 was updated to remove the categories of Audit Reports and Corrective Action reports. These reports are included in Worksheet #32 of the UFP-QAPP.

*Comment 9: UFP-QAPP Worksheet #36 Data Validation Procedures Table*

- a. *Describe how AECOM will demonstrate independence of the data validators from the project staff.*

**Response:** Mr. Greg Malzone is the Chemist and Data Validator located in the AECOM sister office (Pittsburgh, PA). He is independent of the field staff (Chicago, IL) and of the project manager's office (Raleigh, NC).

- b. *Define level of data validation required for this project.*

**Response:** Worksheet #36 was updated to define the levels of data validation required for this project. Validation for leachate, MNA, and soil samples will be 100% using Stage 2b Validation Manual (S2bVM). Validation for leachate samples may also be 100% using Stage 4 Validation Manual (S4VM) if warranted.

- c. *Electronic validation program/versions: EQulS does not validate data. Clarify how EQulS contributes to data validation.*

**Response:** Worksheet #36 was updated to clarify that the EQulS software is the database to store laboratory data and not used for electronic validation at this time. After validation is completed, the Validator will add the validation qualifiers to the EQulS database, and the final summary of validated data are present and extractable for evaluation for all project aspects.

*Comment 10: UFP-QAPP Worksheet #37 Data Usability Assessment*

- a. *In Worksheet 37 define the data quality indicators from Worksheet 28 and how they are calculated.*

**Response:** Worksheet #37 was updated to define the data qualify indicators used for this project.

Comment 11: SOPs

a. *SOP F110 was included twice in the appendix.*

**Response:** The second copy of SOP F110 was removed from Attachment A in the UFP-QAPP.

b. *SGS Dayton EGN228-08 for sulfides was not included in Worksheet #23. Reconcile.*

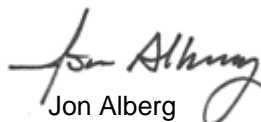
**Response:** Worksheet #23 was updated to include the laboratory SOP for sulfide in the UFP-QAPP.

Please contact Peter Hollatz with any questions.

Prepared by:



Peter Hollatz, P.E.  
Senior Principal  
peter.hollatz@aecom.com  
(919) 461-1194



Jon Alberg  
Senior Principal  
jon.alberg@aecom.com  
(715) 531-7010

cc: John Wolski, Raytheon Technologies Corporation